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JUN 15 2007

IN THE CLAIMS

1. **(currently amended)** A method of controlling an array antenna part having a plurality of antenna elements arranged at a predetermined interval, comprising:

obtaining a predetermined evaluation function with respect to each of weighting coefficients to be applied to incoming signals arriving at a ~~predetermined number~~plurality of antenna elements, by perturbing each of the weighting coefficients at a sampling interval which is within one symbol time; and

adjusting each of the weighting coefficients based on the evaluation function.

2. (original) The method of controlling the array antenna as claimed in claim 1, wherein the antenna part comprises one active antenna element to transmit and receive a radio signal, and a plurality of passive antenna elements, and variable reactances are loaded to the plurality of passive antenna elements, said method comprising:

converting an analog signal received by the active antenna element into a digital signal by oversampling the analog signal at a predetermined period; and

adjusting reactances of the variable reactances to minimize or maximize the evaluation function, by defining as the evaluation function a correlation coefficient which is obtained from a correlation of the digital signal and a known signal having a predetermined pattern.

3. (original) The method of controlling the array antenna as claimed in claim 1, comprising:

adjusting phases and amplitudes of incoming signals arriving at the plurality of antenna elements;

converting analog signals received by the plurality of antenna elements into digital signals by oversampling the analog signals at a predetermined period; and

adjusting the phases and amplitudes to minimize or maximize the evaluation function, by defining as the evaluation function a correlation coefficient which is obtained from a correlation of the digital signals and a known signal having a predetermined pattern.

4. **(currently amended)** An array antenna control apparatus for controlling an array antenna part having a plurality of antenna elements arranged at a predetermined interval, comprising:

a control unit having a part to obtain a predetermined evaluation function with respect to each of weighting coefficients to be applied to incoming signals arriving at a ~~predetermined numberplurality~~ of antenna elements, by perturbing each of the weighting coefficients at a sampling interval which is within one symbol time, and a part to adjust each of the weighting coefficients based on the evaluation function.

5. (original) The array antenna control apparatus as claimed in claim 4, wherein said control unit compares the evaluation function and a predetermined threshold value, and adjusts each of the weighting coefficients depending on a compared result.

6. (original) The array antenna control apparatus as claimed in claim 4, wherein the antenna part comprises one active antenna element to transmit and receive a radio signal, and a plurality of passive antenna elements, and variable reactances are loaded to the plurality of passive antenna elements, said array antenna control apparatus comprising: